

SAF-RC-202
Soil/Sediment Sampling – Integrated
Remedial Investigation/Feasibility Study,
100-BC Area Test Pits
FINAL DATA PACKAGE

COMPLETE COPY OF DATA PACKAGE TO:

No Distribution Required

COMMENTS:

SDG J00998

SAF-RC-202

Rad only

Chem only

Rad & Chem

Complete

Partial

Sample Location: 118-B-8:3 Pipe



Analytical Data Package Prepared For
Washington Closure Hanford



Radiochemical Analysis By
TestAmerica

2800 G.W. Way, Richland Wa, 99354, (509)-375-3131.

Assigned Laboratory Code: TARL

Data Package Contains 19 Pages

Report No.: 45793

Results in this report relate only to the sample(s) analyzed.

| SDG No. | Order No. | Client Sample ID (List Order) | Lot-Sa No. | Work Order | Report DB ID | Batch No. |
|---------|-----------|-------------------------------|-------------|------------|--------------|-----------|
| J00998 | RC-202 | J1CN58 | J1A260469-1 | MDP6L1AA | 9MDP6L10 | 1026235 |

Certificate of Analysis

Washington Hanford Closure
2620 Fermi Avenue
Richland, WA 99354

TestAmerica Laboratories, Inc.

February 16, 2011

Attention: Joan Kessner

| | | |
|-------------------|---|-------------------|
| SAF Number | : | RC-202 |
| Date SDG Closed | : | January 26, 2011 |
| Number of Samples | : | One (1) |
| Sample Type | : | Other |
| SDG Number | : | J00998 |
| Data Deliverable | : | 21- Day / Summary |

CASE NARRATIVE

I. Introduction

On January 26, 2011, one other solid sample was received at TestAmerica for radiochemical analysis. Upon receipt, the sample was assigned the following laboratory ID number to correspond with the Washington Closure Hanford (WCH) specific ID:

| <u>WCH ID#</u> | <u>TARL ID#</u> | <u>MATRIX</u> | <u>DATE OF RECEIPT</u> |
|----------------|-----------------|---------------|------------------------|
| J1CN58 | MDP6L | OTHER | 01/26/11 |

II. Sample Receipt

The sample was received out of hold time; no other anomalies were noted during check-in.

III. Analytical Results/Methodology

The analytical results for this report are presented by laboratory sample ID. Each set of data includes sample identification information, analytical results and the appropriate associated statistical errors.

The requested analyses were:

Chemical Analysis
Hexavalent Chromium by EPA method 7196A

IV. Quality Control

The analytical results for each analysis performed includes a minimum of one laboratory control sample (LCS), one method (reagent) blank, and one duplicate sample analysis. Any exceptions have been noted

Washington Closure Hanford
February 16, 2011

in the "Comments" section.

QC and sample results are reported in the same units.

V. Comments

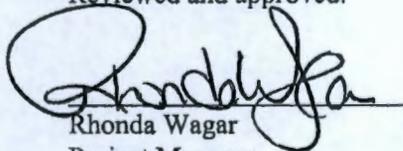
Chemical Analysis

Hexavalent Chromium by EPA method 7196A

The first CCV/CCB and the post digestive matrix spike were inadvertently not analyzed due to an analyst error. The matrix spike recovered low at 67% and the insoluble matrix spike recovered low at 48%. Except as noted, the LCS, batch blank, sample, sample duplicate (J1CN58) and sample matrix spike (J1CN58) results are within contractual requirements.

I certify that this Certificate of Analysis is in compliance with the SOW, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hard copy data package has been authorized by the Laboratory Manager, or a designee as verified by the following signature.

Reviewed and approved:



Rhonda Wagar
Project Manager

Drinking Water Method Cross References

| DRINKING WATER ASTM METHOD CROSS REFERENCES | | |
|---|-------------------------------|--------------------------------|
| Referenced Method | Isotope(s) | TestAmerica Richland's SOP No. |
| EPA 901.1 | Cs-134, I-131 | RL-GAM-001 |
| EPA 900.0 | Alpha & Beta | RL-GPC-001 |
| EPA 00-02 | Gross Alpha (Coprecipitation) | RL-GPC-002 |
| EPA 903.0 | Total Alpha Radium (Ra-226) | RL-RA-002 |
| EPA 903.1 | Ra-226 | RL-RA-001 |
| EPA 904.0 | Ra-228 | RL-RA-001 |
| EPA 905.0 | Sr-89/90 | RL-GPC-003 |
| ASTM D5174 | Uranium | RL-KPA-003 |
| EPA 906.0 | Tritium | RL-LSC-005 |
| | | |
| | | |

Results in this report relate only to the sample(s) analyzed.

Uncertainty Estimation

TestAmerica Richland has adopted the internationally accepted approach to estimating uncertainties described in "NIST Technical Note 1297, 1994 Edition". The approach, "Law of Propagation of Errors", involves the identification of all variables in an analytical method which are used to derive a result. These variables are related to the analytical result (R) by some functional relationship, $R = \text{constants} * f(x,y,z, \dots)$. The components (x,y,z) are evaluated to determine their contribution to the overall method uncertainty. The individual component uncertainties (u_i) are then combined using a statistical model that provides the most probable overall uncertainty value. All component uncertainties are categorized as type A, evaluated by statistical methods, or type B, evaluated by other means. Uncertainties not included in the components, such as sample homogeneity, are combined with the component uncertainty as the square root of the sum-of-the-squares of the individual uncertainties. The uncertainty associated with the derived result is the combined uncertainty (u_c) multiplied by the coverage factor (1,2, or 3).

When three or more sample replicates are used to derive the analytical result, the type A uncertainty is the standard deviation of the mean value (S/\sqrt{n}), where S is the standard deviation of the derived results. The type B uncertainties are all other random or non-random components that are not included in the standard deviation.

The derivation of the general "Law of Propagation of Errors" equations and specific example are available on request.

Report Definitions

| | |
|---|---|
| Action Lev | An agreed upon activity level used to trigger some action when the final result is greater than or equal to the Action Level. Often the Action Level is related to the Decision Limit. |
| Batch | The QC preparation batch number that relates laboratory samples to QC samples that were prepared and analyzed together. |
| Bias | Defined by the equation $(\text{Result}/\text{Expected})-1$ as defined by ANSI N13.30. |
| COC No | Chain of Custody Number assigned by the Client or TestAmerica. |
| Count Error (#s) | Poisson counting statistics of the gross sample count and background. The uncertainty is absolute and in the same units as the result. For Liquid Scintillation Counting (LSC) the batch blank count is the background. |
| Total Uncert (#s) u_c - Combined Uncertainty. | All known uncertainties associated with the preparation and analysis of the sample are propagated to give a measure of the uncertainty associated with the result, u_c , the combined uncertainty. The uncertainty is absolute and in the same units as the result. |
| (#s), Coverage Factor | The coverage factor defines the width of the confidence interval, 1, 2 or 3 standard deviations. |
| CRDL (RL) | Contractual Required Detection Limit as defined in the Client's Statement Of Work or TestAmerica "default" nominal detection limit. Often referred to the reporting level (RL) |
| Lc | Decision Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume associated with the sample. The Type I error probability is approximately 5%. $Lc = (1.645 * \text{Sqrt}(2 * (\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin})) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. For LSC methods the batch blank is used as a measure of the background variability. Lc cannot be calculated when the background count is zero. |
| Lot-Sample No | The number assigned by the LIMS software to track samples received on the same day for a given client. The sample number is a sequential number assigned to each sample in the Lot. |
| MDC MDA | Detection Level based on instrument background or blank, adjusted by the Efficiency, Chemical Yield, and Volume with a Type I and II error probability of approximately 5%. $MDC = (4.65 * \text{Sqrt}((\text{BkgndCnt}/\text{BkgndCntMin})/\text{SCntMin}) + 2.71/\text{SCntMin}) * (\text{ConvFct}/(\text{Eff} * \text{Yld} * \text{Abn} * \text{Vol})) * \text{IngrFct}$. For LSC methods the batch blank is used as a measure of the background variability. |
| Primary Detector | The instrument identifier associated with the analysis of the sample aliquot. |
| Ratio U-234/U-238 | The U-234 result divided by the U-238 result. The U-234/U-238 ratio for natural uranium in NIST SRM 4321C is 1.038. |
| Rst/MDC | Ratio of the Result to the MDC. A value greater than 1 may indicate activity above background at a high level of confidence. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result. |
| Rst/TotUcert | Ratio of the Result to the Total Uncertainty. If the uncertainty has a coverage factor of 2 a value greater than 1 may indicate activity above background at approximately the 95% level of confidence assuming a two-sided confidence interval. Caution should be used when applying this factor and it should be used in concert with the qualifiers associated with the result. |
| Report DB No | Sample Identifier used by the report system. The number is based upon the first five digits of the Work Order Number. |
| RER | The equation Replicate Error Ratio = $(S-D)/[\text{sqrt}(\text{TPUs}^2 + \text{TPUd}^2)]$ as defined by ICPT BOA where S is the original sample result, D is the result of the duplicate, TPUs is the total uncertainty of the original sample and TPUd is the total uncertainty of the duplicate sample. |
| SDG | Sample Delivery Group Number assigned by the Client or assigned by TestAmerica upon sample receipt. |
| Sum Rpt Alpha Spec Rst(s) | The sum of the reported alpha spec results for tests derived from the same sample excluding duplicate result where the results are in the same units. |
| Work Order | The LIMS software assign test specific identifier. |
| Yield | The recovery of the tracer added to the sample such as Pu-242 used to trace a Pu-239/40 method. |

Sample Results Summary

Date: 16-Feb-11

TestAmerica TARL

Ordered by Method, Batch No., Client Sample ID.

Report No. : 45793

SDG No: J00998

| Batch | Client Id Work Order | Parameter | Result +/- Uncertainty (2s) | Qual | Units | Tracer Yield | MDC or MDA | CRDL | RPD |
|---------|-------------------------|-----------|------------------------------|------|-------|-----------------|---------------|----------|-----|
| 1026235 | 7196_CR6 | | | | | | | | |
| | J1CN58 | | | | | | | | |
| | MDP6L1AA | HEXCHROME | 2.91E+00 +/- 0.0E+00 | | mg/kg | N/A | 1.53E-01 | 1.55E-01 | |
| | MDP6L1AD | HEXCHROME | 3.04E+00 +/- 0.0E+00 | | mg/kg | N/A | 1.53E-01 | 3.50E-01 | 4.2 |

No. of Results: 2

TestAmerica RPD - Relative Percent Difference.

rptSTLRchSaSum
mary2 V5.2.11
A2002

QC Results Summary
TestAmerica TARL
 Ordered by Method, Batch No, QC Type,.

Date: 16-Feb-11

Report No. : 45793

SDG No.: J00998

| Batch | Work Order | Parameter | Result +/- Uncertainty (2s) | Qual | Units | Tracer Yield | LCS Recovery | Bias | MDC MDA |
|--------------------------|------------|----------------------|------------------------------|------|-------|--------------|--------------|------|----------|
| 7196_CR6 | 1026235 | BLANK QC, | | | | | | | |
| | MDQC11AA | HEXCHROME | 1.55E-01 +/- 0.0E+00 | U | mg/kg | N/A | | | 1.55E-01 |
| | 1026235 | LCS, | | | | | | | |
| | MDQC11AC | HEXCHROME | 1.85E+01 +/- 0.0E+00 | | mg/kg | N/A | 93% | -0.1 | 1.55E-01 |
| | 1026235 | MATRIX SPIKE, J1CN58 | | | | | | | |
| | MDP6L1AC | HEXCHROME | 8.73E+00 +/- 0.0E+00 | | mg/kg | N/A | 67% | -0.3 | 1.53E-01 |
| No. of Results: 3 | | | | | | | | | |

TestAmerica Bias - (Result/Expected)-1 as defined by ANSI N13.30.
 rptSTLRchQcSummary V5.2.11 U Qual - Analyzed for but not detected above limiting criteria. Limit criteria is less than the Mdc/Mdn/Mdl, Total Uncert, CRDL, RDL or
 A2002 not identified by gamma scan software.

FORM I
SAMPLE RESULTS

Date: 16-Feb-11

Lab Name: TestAmerica
 Lot-Sample No.: J1A260469-1
 Client Sample ID: J1CN58

SDG: J00998
 Report No. : 45793
 COC No. : RC-202-20

Collection Date: 1/25/2011 10:12:00 AM
 Received Date: 1/26/2011 10:30:00 AM
 Matrix: OTHER OTHERSOLID

Ordered by Client Sample ID, Batch No.

| Parameter | Result | Qual | Count Error (2 s) | Total Uncert(2 s) | MDC MDA, Action Lev | Rpt Unit, Lc | Yield CRDL(RL) | Rst/MDC, Rst/TotUncert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|----------------|-----------------|------|--------------------|--------------------|----------------------|--------------|------------------------|------------------------|---------------------|---------------|--------------|------------------|
| Batch: 1026235 | 7196_CR6 | | | | Work Order: MDP6L1AA | | Report DB ID: 9MDP6L10 | | | | | |
| HEXCHROME | 2.91E+00 | | | 0.0E+00 | 1.53E-01 | mg/kg | N/A | (19.) | 1/26/11 | | 2.5305 | |
| | | | | | | | 1.55E-01 | N/A | | | g | |

No. of Results: 1 Comments:

FORM II

Date: 16-Feb-11

DUPLICATE RESULTS

Lab Name: TestAmerica

SDG: J00998

Collection Date: 1/25/2011 10:12:00 AM

Lot-Sample No.: J1A260469-1

Report No. : 45793

Received Date: 1/26/2011 10:30:00 AM

Client Sample ID: J1CN58

COC No. : RC-202-20

Matrix: OTHER OTHERSOLID

| Parameter | Result, Orig Rst | Qual | Count Error (2 s) | Total Uncert(2 s) | MDC MDA, Action Lev | Rpt Unit, CRDL | Yield | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|----------------|---------------------|------|-----------------------|-----------------------|------------------------|-------------------|-------|--------------------------|------------------------|------------------|-----------------|---------------------|
| Batch: 1026235 | 7196_CR6 | | | | Work Order: MDP6L1AD | | | | Report DB ID: MDP6L1AD | | | |
| HEXCHROME | 3.04E+00 | | | 0.0E+00 | 1.53E-01 | mg/kg | N/A | (19.8) | 1/26/11 | | 2.5213 | |
| | 2.91E+00 | | RPD 4.2 | | | 3.50E-01 | | N/A | | | g | |

No. of Results: 1 Comments:

FORM II
BLANK RESULTS

Date: 16-Feb-11

Lab Name: TestAmerica
Matrix: OTHER

SDG: J00998
Report No. : 45793

| Parameter | Result | Qual | Count Error (2 s) | Total Uncert(2 s) | MDC MDA , | Rpt Unit, CRDL | Yield | Rst/MDC, Rst/TotUcert | Analysis, Prep Date | Total Sa Size | Aliquot Size | Primary Detector |
|----------------|----------|------|-------------------|--------------------|----------------------|------------------------|-------|-----------------------|---------------------|---------------|--------------|------------------|
| Batch: 1026235 | 7196_CR6 | | | | Work Order: MDQC11AA | Report DB ID: MDQC11AA | | | | | | |
| HEXCHROME | 1.55E-01 | U | | 0.0E+00 | 1.55E-01 | mg/kg | N/A | 1. | 1/26/11 | | 2.5 | |
| | | | | | | 1.55E-01 | | N/A | | | g | |

No. of Results: 1 Comments:

FORM II
LCS RESULTS

Date: 16-Feb-11

Lab Name: TestAmerica
Matrix: OTHER

SDG: J00998
Report No.: 45793

| Parameter | Result | Count Qual | Error (2 s) | Total Uncert(2 s) | MDC MDA | Report Unit | Yield | Expected | Expected Uncert | Recovery, Bias | Analysis, Prep Date | Aliquot Size | Primary Detector |
|----------------|----------|------------|--------------|----------------------|----------|------------------------|-------------|----------|-----------------|----------------|---------------------|--------------|------------------|
| Batch: 1026235 | 7196_CR6 | | | Work Order: MDQC11AC | | Report DB ID: MDQC11AC | | | | | | | |
| HEXCHROME | 1.85E+01 | | | 0.0E+00 | 1.55E-01 | mg/kg | N/A | 2.00E+01 | | 93% | 1/26/11 | 2.5 | |
| | | | | | | | Rec Limits: | 80 | 120 | -0.1 | | g | |

No. of Results: 1 Comments:

FORM II
MATRIX SPIKE RESULTS

Date: 16-Feb-11

Lab Name: TestAmerica

SDG: J00998

Lot-Sample No.: J1A260469-1, J1CN58

Report No. : 45793

Matrix: OTHER OTHERSOLID

| Parameter | SpikeResult, Orig Rst | Count Qual Error (2 s) | Total Uncert(2 s) | MDC MDA | Rpt Unit, CRDL | Yield | Rec- overy | Expected, Uncert | Analysis, Prep Date | Aliquot Size | Analy Method, Primary Detector |
|----------------|--------------------------|---------------------------|------------------------|----------|-------------------------|-------|---------------|---------------------|------------------------|-----------------|-----------------------------------|
| Batch: 1026235 | Work Order: MDP6L1AC | | Report DB ID: MDP6L1AC | | Orig Sa DB ID: 9MDP6L10 | | | | | | |
| HEXCHROME | 8.73E+00 | | 0.0E+00 | 1.53E-01 | mg/kg | N/A | 67.24% | 1.30E+01 | 1/26/11 | 2.5278 | 7196_CR6 |
| | 2.91E+00 | | | | | | | | | g | |

Number of Results: 1

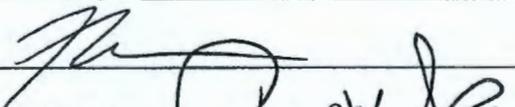
Comments:

| Batch Number(s): 1026235 | | | | |
|--|---------|--------|---------|----------------------------------|
| Lab Sample Numbers or SDG: J00998 | | | | |
| Method/Test/Parameter: Cr+6 In SOLID / RL-WC-004 | | | | |
| Review Item | Yes (✓) | No (✓) | N/A (✓) | 2 nd Level Review (✓) |
| A. Initial Calibration | | | | |
| 1. Performed at required frequency with required number of levels? | ✓ | | | ✓ |
| 2. Correlation coefficient within QC limits? | ✓ | | | ✓ |
| 3. Initial calibration verification (ICV) analyzed immediately after calibration and results within QC limits? | ✓ | | | ✓ |
| 4. Initial calibration blank (ICB) analyzed immediately after ICV and concentrations of all parameters ≤ reporting limit? | ✓ | | | ✓ |
| B. Continuing Calibration | | | | |
| 1. CCV analyzed at required frequency and all parameters within QC limits? | | ✓ | | ✓ |
| 2. CCB analyzed at required frequency and all results ≤ reporting limit? | | ✓ | | ✓ |
| C. Sample Analysis | | | | |
| 1. Were any samples with concentrations above the linear range for any parameter diluted and reanalyzed? | | | ✓ | N/A |
| 2. Were all sample holding times met? | ✓ | | | ✓ |
| D. QC Samples | | | | |
| 1. All results for the preparation blank below limits? | ✓ | | | ✓ |
| 2. MS or MS/MSD recoveries within QC limits and %RPD (for MSD) acceptable? | | ✓ | | ✓ |
| 3. LCS percent recovery within QC limits and %RPD (for LCSD) acceptable? | ✓ | | | ✓ |
| 4. Analytical spikes within QC limits where applicable? | | ✓ | | ✓ |
| 5. ICP only: One serial dilution performed per SDG? | | | ✓ | N/A |
| 6. ICP only: CRDL standard (CRI or CRA) analyzed at required frequency? | | | ✓ | N/A |
| 7. ICP only: Interference check samples (ICSA, ICSAB) and HICAL analyzed at the required frequencies and within QC limits? | | | ✓ | N/A |

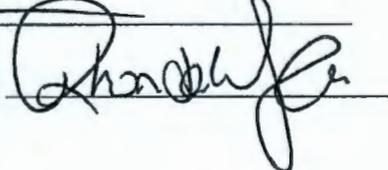
| Review Item | Yes (✓) | No (✓) | N/A (✓) | 2 nd Level Review (✓) |
|--|------------|-----------|------------|-------------------------------------|
| E. Other | ✓ | | | |
| 1. Are all nonconformances included and noted? | | | | ✓ |
| 2. Is the correct date and time of analysis shown? | ✓ | | | ✓ |
| 3. Did the analyst sign and date the front page of the analytical run? | ✓ | | | ✓ |
| 4. Correct methodology used? | ✓ | | | ✓ |
| 5. Transcriptions checked? | ✓ | | | ✓ |
| 6. Calculations checked at minimum frequency? | ✓ | | | ✓ |
| 7. Units checked? | ✓ | | | ✓ |

Comments on any "No" response:

There was no CCV/CCB bracketing the run after the initial calibration was performed. The insoluble spike recovered low at 47.988% and a PDMS was not performed. The MS also recovered low at 67.240% This suggests that there is a reducing capacity in the sample.

Analyst: 

Date: 2/16/11

Second-Level Review: 

Date: 2/16/11

Clouseau Nonconformance Memo



| | |
|---|--|
| NCM #: 10-17464 NCM Initiated By: Traci Nolan Date Opened: 02/16/2011 Date Closed: | Classification: Deficiency Status: PMREVIEW Production Area: Classical Chemistry Tests: 7196A Lot #'s (Sample #'s): J1A260000 (235), J1A260469 (1), QC Batches: 1026235, |
| Nonconformance: Incorrect prep/analysis procedure followed Subcategory: Other (explanation required) | |

Problem Description / Root Cause

| Name | Date | Description |
|-------------|------------|---|
| Traci Nolan | 02/16/2011 | There was no CCV/CCB bracketing the run after the initial calibration was performed. The insoluble spike recovered low at 47.988% and a PDMS was not performed. The MS also recovered low at 67.240% This suggests that there is a reducing capacity in the sample. |

Corrective Action

| Name | Date | Corrective Action |
|-------------|------------|-------------------|
| Traci Nolan | 02/16/2011 | Reported Data |

Client Notification Summary

| Client | Project Manager | Notified | Response | How Notified | Note |
|--------|-----------------|----------|-----------------|--------------|----------------------|
| | | | <u>Response</u> | | <u>Response Note</u> |

Quality Assurance Verification

| Verified By | Due Date | Status | Notes |
|-------------|----------|---------------------------------------|-------|
| | | This section not yet completed by QA. | |

Approval History

| Date Approved | Approved By | Position |
|---------------|-------------|----------|
|---------------|-------------|----------|

Traci Nolan 2/16/11

| Washington Closure Hanford | | CHAIN OF CUSTODY/SAMPLE ANALYSIS REQUEST | | | | RC-202-20 | Page 1 of 1 | | | |
|--|---|---|-------------|--|-----------------------------|---|-------------|---|---|--|
| Collector Scales | | Company Contact Joan Kessner | | Telephone No. (509) 375-4688 | | Project Coordinator KESSNER, JH | | Price Code 8N BD | Data Turnaround 45 Days 21d/21d | |
| Project Designation Soil/Sediment Sampling - Integrated Remedial Investigation/ | | Sampling Location 118-B-83 PIPE | | SAF No. RC-202 | | Method of Shipment 2/10/11 Hand Deliver | | JR 1/10/11 | | |
| Ice Chest No. N/A | | Field Logbook No. EL-1654 | | COA BESFIB6300 | | Bill of Lading/Air Bill No. N/A | | | | |
| Shipped To TestAmerica Incorporated, Richland | | Offsite Property No. N/A | | Bill of Lading/Air Bill No. N/A | | | | | | |
| POSSIBLE SAMPLE HAZARDS/REMARKS Potential Rad <DOT Limits Rad Vic TICNS3 Special Handling and/or Storage Cool 4C | | | | Preservation Cool-4C | | | | | | |
| | | | | Type of Container G/P | | | | | | |
| | | | | No. of Container(s) 1 | | | | | | |
| | | | | Volume 120mL | | | | | | |
| SAMPLE ANALYSIS | | | | Chromium Hex - 7196 (100 Area RIFS) | |  J1A260469 | | | | |
| Sample No. | Matrix * | Sample Date | Sample Time | | | | | | | |
| J1CN58 | SOIL OTHER JR 11/24/10 | 1-25-11 | 1012 | X | MDP62 | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| CHAIN OF POSSESSION | | | | | SPECIAL INSTRUCTIONS | | | | | |
| Relinquished By/Removed From | | Date/Time | | Received By/Stored In | | Date/Time | | 24-hour hold - JR 11/10/10 J1A260469 SDGTJ00998 DUL-2-16-11 | | Matrix * S=Soil SE=Sediment SO=Soil SL=Sludge W = Water O=Oil A=Air DS=Drum Solids DL=Drum Liquids T=Trash Wl=Wipe L=Liquid V=Vegetation X=Other |
| J Scales | | 1-25-11 1342 | | SSN #1 | | 1-25-11 1342 | | | | |
| SSU #1 | | 1/26/11 0830 | | L.D. Wall | | 1/26/11 0830 | | | | |
| L.D. Wall | | 1/26/11 1030 | | TR-4 | | 1/26/11 1030 | | | | |
| CHFR | | JAN 26 2011 | | CHFR | | JAN 26 2011 | | | | |
| Relinquished By/Removed From | | Date/Time | | Received By/Stored In | | Date/Time | | | | |
| Relinquished By/Removed From | | Date/Time | | Received By/Stored In | | Date/Time | | | | |
| Relinquished By/Removed From | | Date/Time | | Received By/Stored In | | Date/Time | | | | |
| Relinquished By/Removed From | | Date/Time | | Received By/Stored In | | Date/Time | | | | |
| LABORATORY SECTION | | Received By | | Title | | Date/Time | | | | |
| FINAL SAMPLE DISPOSITION | | Disposal Method | | Disposed By | | Date/Time | | | | |

Sample Check-in List

Date/Time Received: 1.26.11 @ 1030 GM Screen Result (out) .3 (in) .4 Initials [Signature]
 Client: WCH SDG #: J00998 NA [] SAF #: RC-202 NA []
 Work Order Number: J1A260469 Chain of Custody #: RC-202-20
 Shipping Container ID: HAND DELIVER NA [] Air Bill # [Signature]

Item 1 through 5 for shipping container only. Initial appropriate response.

1. Custody Seals on shipping container intact? Yes No [] No Custody Seal []
2. Custody Seals dated and signed? Yes No [] No Custody Seal []
3. Chain of Custody record present? Yes No []
4. Cooler temperature: ICE NA [] 5. Vermiculite/packing materials is NA [] Wet [] Dry

Item 6 through 10 for samples. Initial appropriate response.

6. Number of samples in shipping container (Each sample may contain multiple bottles): 1 @ 1 J1A
7. Sample holding times exceeded? NA [] Yes No Client aware of time exceeded.
8. Samples have: tape custody seals hazard labels appropriate sample labels
9. Samples: are in good condition (soil other) are broken are leaking have air bubbles (Only for samples requiring no head space)
10. Sample pH appropriate for analysis requested Yes [] No [] N/A (Note discrepancies in #13)
(If acidification necessary, then document sample ID, initial pH, amount of HNO₃ added and pH after addition)

RPL ID # of preservative used: _____

11. Sample Location, Sample Collector Listed? * Yes No [] *For documentation only. No corrective action needed.  J1A260469
12. Were any anomalies identified in sample receipt? Yes No []
13. Description of anomalies (include sample numbers): NA [] Hold time exceeded.

See other side for additional comments

Sample Custodian: [Signature] Date: 1.26.11 THUR @ 1030AM
 Client Informed on _____ by _____ Person contacted _____
 No action necessary; process as is with note in case narrative. Pw 1/26/11
 Project Manager: [Signature] Date: 1/26/11

1/27/2011 8:47:01 AM

Sample Preparation/Analysis

Balance Id:

127642, Washington Closure Hanford LLC
Bechtel Hanford, Inc.

DW Alkaline Digestion by method 3060A
EA Chromium, Hexavalent (7196A)

Pipet #:

Analysis Due Date: 02/02/2011

5I CLIENT: HANFORD

Sep1 DT/Tm Tech:

Batch: 1026235 OTHER mg/kg
SEQ Batch, Test: None All Tests: 1026235 DWEA,

PM, Quote: SS , 27038

Sep2 DT/Tm Tech:

Prep Tech:



| Work Order, Lot, Sample Date/Time | Total Amt/Unit | Initial Aliquot Amt/Unit | QC Tracer Prep Date | Dish Size | Ppt or Geometry | Count Time Min | Detector Id | Count On Off (24hr) Circle | CR Analyst, Init/Date | Comments: |
|-----------------------------------|----------------|--------------------------|---------------------|-----------|-----------------|----------------|-------------|------------------------------|-----------------------|-----------|
|-----------------------------------|----------------|--------------------------|---------------------|-----------|-----------------|----------------|-------------|------------------------------|-----------------------|-----------|

1 MDP6L-1-AA

J1A260469-1-SAMP

| | | | | | | | | | | |
|------------------|--|--|------------------|--|----------------|--|--|-------------------|--|--|
| 01/25/2011 10:12 | | | AmtRec: 1X120MLG | | #Containers: 1 | | | Scr: Alpha: Beta: | | |
|------------------|--|--|------------------|--|----------------|--|--|-------------------|--|--|

2 MDP6L-1-AC-S

J1A260469-1-MS

| | | | | | | | | | | |
|------------------|--|--|------------------|--|----------------|--|--|-------------------|--|--|
| 01/25/2011 10:12 | | | AmtRec: 1X120MLG | | #Containers: 1 | | | Scr: Alpha: Beta: | | |
|------------------|--|--|------------------|--|----------------|--|--|-------------------|--|--|

3 MDP6L-1-AD-X

J1A260469-1-DUP

| | | | | | | | | | | |
|------------------|--|--|------------------|--|----------------|--|--|-------------------|--|--|
| 01/25/2011 10:12 | | | AmtRec: 1X120MLG | | #Containers: 1 | | | Scr: Alpha: Beta: | | |
|------------------|--|--|------------------|--|----------------|--|--|-------------------|--|--|

4 MDQC1-1-AA-B

J1A260000-235-BLK

| | | | | | | | | | | |
|---------------------|--|--|---------|--|----------------|--|--|-------------------|--|--|
| 01/27/2011 08:46 pd | | | AmtRec: | | #Containers: 1 | | | Scr: Alpha: Beta: | | |
|---------------------|--|--|---------|--|----------------|--|--|-------------------|--|--|

5 MDQC1-1-AC-C

J1A260000-235-LCS

| | | | | | | | | | | |
|---------------------|--|--|---------|--|----------------|--|--|-------------------|--|--|
| 01/27/2011 08:46 pd | | | AmtRec: | | #Containers: 1 | | | Scr: Alpha: Beta: | | |
|---------------------|--|--|---------|--|----------------|--|--|-------------------|--|--|

Comments:

All Clients for Batch:

127642, Washington Closure Hanford LLC

Bechtel Hanford, Inc.

SS , 27038

MDP6L1AA-SAMP Constituent List:

HEXCHROME RDL:0.1548 mg/kg LCL:80 UCL:120 RPD:20

TestAmerica Key: In - Initial Amt, fi - Final Amt, di - Diluted Amt, s1 - Sep1, s2 - Sep2 Page 1

ISV - Insufficient Volume for Analysis

WO Cnt: 5

Richland Wa. pd - Prep Dt, dc - Date Chg, r - Reference Dt, ec-Enrichment Cell, ct-Cocktailed Added

ICOC v4.8.49

TestAmerica Laboratories, Inc.

1/27/2011 8:47:02 AM

Sample Preparation/Analysis

Balance Id: _____

DW Alkaline Digestion by method 3060A

Pipet #: _____

EA Chromium, Hexavalent (7196A)

SI CLIENT: HANFORD

AnalyDueDate: 02/02/2011

Sep1 DT/Tm Tech: _____

Batch: 1026235

mg/kg

Sep2 DT/Tm Tech: _____

SEQ Batch, Test: None

Prep Tech: _____



| Work Order, Lot, Sample Date/Time | Total Amt/Unit | Initial Aliquot Amt/Unit | QC Tracer Prep Date | Dish Size | Ppt or Geometry | Count Time Min | Detector Id | Count On Off (24hr) Circle | CR Analyst, Init/Date | Comments: |
|-----------------------------------|----------------|--------------------------|---------------------|-----------|-----------------|----------------|-------------|------------------------------|-----------------------|-----------|
|-----------------------------------|----------------|--------------------------|---------------------|-----------|-----------------|----------------|-------------|------------------------------|-----------------------|-----------|

MDP6L1AC-MS Constituent List:

HEXCHROME RDL:0.35 mg/kg LCL:75 UCL:125 RFD:20

MDQC11AA-BLK:

HEXCHROME RDL:0.1548 mg/kg LCL: UCL: RFD:

MDQC11AC-LCS:

HEXCHROME RDL:0.35 mg/kg LCL:80 UCL:120 RFD:20

MDP6L1AA-SAMP Calc Info:

Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

MDP6L1AC-MS Calc Info:

Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

MDQC11AA-BLK:

Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B

MDQC11AC-LCS:

Uncert Level (#s) : 2 Decay to SaDt: Y Blk Subt.: N Sci.Not.: Y ODRs: B